United States Department Of Agriculture
Forest Service
Shasta-Trinity National Forests
2400 Washington Avenue
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Reply To: 3420 Lat 41.30668 Lon -122.03129 Date: April 3, 1990

Subject: Evaluation of potential for buildup of pine engraver beetles in slash on McCloud RD (FPM Report No. N90-4)

To: Forest Supervisor, Shasta-Trinity NF

Logging has continued during the winter on the Pilgrim Sale on the McCloud RD. Bill Branham, Timber Planning and Sales Officer, had some concerns about the treatment of slash, and requested the situation be evaluated before the sale closes. The sale areas were examined on March 15, 1990 by Dave Schultz and Gregg DeNitto from the Forest Pest Management Northern California Service Area, and Bill Branham and Frank Del Carlo from the District.

The sale consists of numerous units located near the Pilgrim Creek Road on McCloud Flats. Ponderosa pine is the predominant species in the area. For this reason, most of the slash produced by the sale, as well as the majority of the leave trees are ponderosa pine.

There are several good reasons to be concerned about an increase of pine engraver beetles, Ips spp., in slash produced in this sale. The potential to build up a damaging population of pine engravers is greatest in slash produced from January through June. Also, the potential for mortality of leave trees increases during drought periods. The combination of the timing of the current sale, the dry weather which has continued through the winter, and the large proportion of pine in the area have created a significant potential for localized tree mortality caused by pine engravers during 1990.

Most of the slash left in the harvest units has a relatively low potential for breeding material for pine engravers. The harvested material had been utilized to a fairly small diameter, which reduced the total amount of slash. Slash located away from the landings had generally been lopped, which tends to reduce breeding success of pine engravers by increased solar heating and drying. Some of the slash had been crushed, or partially debarked by harvesting machinery, which also tends to reduce breeding success of pine engravers. During most years, there would be little or no danger posed by the amount and type of slash left in the harvest units. The potential for future mortality is higher than normal this year because trees are already under moisture stress, and populations of pine engravers are high. It would be worthwhile to make sure that the slash has been lopped as low as possible, and that larger cull pieces of pine are exposed to the sun.

There was a considerable accumulation of slash at the landings. The proposed plan was to pile the slash and burn it in the fall, after allowing it to dry all summer. This would result in one or more large piles at each of 54 landings in the sale. The potential for pine engravers to build up in at least one pile and cause localized top-killing or mortality of ponderosa pine is high.

Two possible methods of reducing the potential for pine engravers to build up in slash near the landings were discussed in the field. One method of lowering the suitability of slash for breeding habitat would be to spread out the slash, and possibly do some additional lopping, before it becomes infested. This would not completely eliminate the risk of a pine engraver buildup, but would substantially lower the probability of mortality. If the slash becomes infested before any action can take plaoe, spreading the infested slash would have little or no effect on the development of the brood. Because the Pilgrim Creek Road has a high amount of traffic, it was felt that both visual impacts and fuel loading would make it unacceptable to spread out the slash and leave it in place.

A second method discussed to lower the potential for a local increase in pine engravers is to pile the slash near the landings with the intention of burning the piles before the beetles can complete development. This should be quite effective if the piles can be burned before early June. If the slash is piled and it becomes impossible to burn before mid-June, localized mortality is very likely.

MANAGEMENT ALTERNATIVES

1. Do nothing. This assumes that slash at the landings would be piled and left to dry during the summer. The probability of mortality developing around at least one of the piles is quite high. The large amount of slash in the area, combined with high beetle population levels, and moisture stress on residual trees all suggest that more than one slash pile could cause tree mortality.

2. Spread existing slash piles. Spreading out slash piles before they become infested with pine engravers would give moderate to high protection against a local population increase. Additional lopping or machine crushing would increase efficacy.

3. Pile slash and burn quickly. Burning slash piles before pine engravers can complete development would eliminate the piles as a potential source of beetles. Pine engravers can complete development in 6 to 8 weeks during mid-summer. Slash does not have to be completely consumed by the fires, but needs to be thoroughly charred. If slash piles from the current sale are not burned by mid-June, at the latest, the results would be the same as the Do nothing alternative.

If you need additional information, please call Dave Schultz at (916) 246-5087.

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